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1998

Legal Aspects of the Design-Build
Method of Construction Delivery

by

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Legal Aspects of the Design-Build
Method of Construction Delivery

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ABSTRACT

Though many of the legal issues that may be encountered using the design-build method of project delivery are the same or similar to legal issues encountered using other methods of project delivery, there are several issues unique to design-build which can significantly affect the success of the project and the parties involved in the design-build project. Differences in issues such as liability, insurance coverage, bonding, public procurement requirements and statutes, licensing, and changes in responsibilities and expectations of the contracting parties can lead to unexpected problems, conflict, and litigation. An owner or design-build entity that is not aware of or ignores these potential issues may encounter unanticipated problems.

This report summarizes many of the key legal aspects unique to construction using the design-build method of project delivery. After explaining each of the potential issues, case law and rulings regarding these issues are cited, and suggestions for managing the issues (i.e. prevention or mitigation of problems) are offered. The report is directed to a general audience (i.e. owners, contractors and designers) and is not specific to any one of the typical parties involved in design-build.

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1.0 INTRODUCTION AND STUDY APPROACH

1.1 Objective of Report

Though design-build construction has been in existence for many years, it has not been commonly and extensively used until recently. With the changing needs and desires of construction industry customers, the common and extensive use of design-build has grown over the past 10 years, and has become the method of choice in many situations. With this increase in use of design-build construction has come a recognition that the existing legal, contractual, and insurance systems and methods used for traditional construction methods (e.g. design-bid-build) do not adequately cover design-build construction. Due to differing contractual and legal relationships, the parties involved in design-build construction can expect to face unanticipated legal and contractual difficulties regarding issues such as liability, insurance coverage, bonding, public procurement requirements and statutes, licensing, and changes in responsibilities and expectations of the contracting parties (i.e. conflicts of interest). Though the legal system is in the process of adapting to the design-build aspect of these issues, there are still many questions and uncertainties about how the legal system will handle many specific situations. Accordingly, entities that are or will be involved in design-build construction should be aware of the key legal issues they could potentially face when involved in design-build construction and how to manage these issues effectively in order to prevent, eliminate, or mitigate any ill effects on their projects. The objective of this report is analyze these key issues and provide suggestions for their prevention and resolution.

1.2 Approach to Analysis

In order to fulfill the objectives of this report, numerous publications and articles that discuss the various potential legal issues of design-build construction

were reviewed and analyzed. The information was then organized and summarized to provide concise explanations of key design-build legal issues, citations of available legal rulings and decisions, and suggestions for managing the key issues.

1.3 Structure of Report

The report is arranged to provide what is hoped to be the most logical sequence of issues and easiest reading. After this introductory chapter, the second chapter is a brief review and explanation of design-build construction including definitions, history, organizational relationships, and selection procedures. Though it is assumed that the readers of this report have a reasonable knowledge of the design-build method of project delivery, this section is included to provide a basic understanding of design build construction and to ensure a common basis of understanding from which legal issues and their management can be discussed. The third chapter is subdivided into the various legal issues, with each subdivision containing: 1) an explanation of the issue and possible impacts on a project, 2) a review of any applicable case law; and 3) suggestions for successfully managing the issue. “Managing the issue” as used here means identification of the issue in a particular situation, determining any impact it can have on the project, and then taking appropriate steps to prevent or minimize the impact. The fourth chapter is a brief summary of interviews with some actual participants in design-build construction, and chapter five provides conclusions and recommendations.

The Appendices at the end of the report provide some additional useful information regarding federal and state use and regulation of design-build. The List of Cases Cited at the end of this report includes an alphabetical listing of complete citations for the case law cited in the text.

2.0 FUNDAMENTALS OF DESIGN-BUILD

2.1 Background

Since this report is written with the assumption that the reader has a reasonable background in construction and construction contractual and legal issues, this chapter is not intended to provide a extensive and all encompassing background and explanation of design-build. Rather, it is a summary of key design-build concepts, organizational relationships, and methods of selection of design build entities by owners.

The most common traditional project delivery method or system is design-bid-build, by which an owner hires an architect/engineer to prepare the design and specifications for a project, these design documents are then given to various contractors who submit their bid based on whatever the owner has decided are the most important criteria (price, qualifications, experience, etc.). A contract is then awarded based on the owner's, criteria which might be lowest price, best qualifications, experience, or a combination of these. The key factor is that the design documents are prepared by one entity and the construction is executed by another non-related entity. This system provides a quasi-adversarial relationship between the designer and the constructor which serves to keep all parties honest and the project well built. There are several drawbacks to this system, but the major drawbacks are that the owner has to deal with two separate entities, has to take on some liability (i.e. warrant the A/E design for the contractor) and should a problem occur with the project, the owner has to determine where the fault lies and "referee" between the designer and constructor as they attempt to pin the blame on the other, oftentimes delaying problem solution considerably. To avoid having to deal with these problems, many owners have opted to use the design build method of project delivery.

2.2 History and Development of Design Build

Design-build refers to a method of project delivery in which a single entity provides to the client or owner all of the services necessary to both design and construct all or a portion of the project (Twomey, 1989). The client or owner then deals only with the head of the design-build firm, simplifying the relationships between the owner and other project participants and hopefully eliminating many of the problems typical of design-bid-build projects.

Design-build concepts have been in existence for a very long time. In the early 1800's, a form of design-build construction was offered by "package dealers" who performed both design and construction. However, architects, seeking to distinguish themselves from such "package dealers" adopted ethical principles that required them to put the interest of the owners above their own and forbade architects to act as package dealers. This prohibition carried over into the American Institute of Architects Code of Ethics and state regulatory language for over 100 years.

Despite these limitations, the design-build concept has been used with considerable success, principally for construction of complex industrial facilities but also for construction of simpler projects like buildings and pre-fabricated facilities. During the 1970's, the popularity of design-build grew in the construction of intermediate type facilities like office buildings, hospitals, libraries, waste treatment projects, and schools.

In 1978, a three year experiment was authorized by the AIA Board of Directors, which allowed architects to participate in design-build. As a result, in 1980, the AIA dropped the ethical prohibitions, cancelled the remainder of the experiment, and authorized the drafting of AIA design-build contract documents. The 1980's saw a dramatic broadening of the use of design-build construction, including public sector owners which are usually slower to try new methods. Though public sector owners are considering and using design-build more and

more, they must deal with public procurement regulations which have not been quick to change.

2.3 Advantages and Disadvantages of Design Build

As with any method of project delivery, there are advantages and disadvantages to using this method. These advantages and disadvantages can depend on which entity of the design-build team is concerned (i.e. owner, designer, constructor). Some of the major advantages of design-build are:

- a. There is a single point responsibility for execution of the project. One party is responsible for the entire project. This eliminates disputes and finger pointing between designer and contractor.
- b. Elimination of owner risk in warranting the design. The owner does not have to warrant the design (done by somebody else) for the contractor.
- c. Reduction of change order problems between designer and contractor and acceleration of change order and design solutions.
- d. Reduction of problems associated with design errors or omissions.
- e. Better cost control (as a result of the previous listed advantages).
- f. Promotion of construction input during design.
- g. Decrease in litigation.
- h. There is significant potential for the minimization of owner effort in managing the construction, assuming the design-builder performs responsibly and ethically. (One the other hand, the owner no longer has the designer as his “watchdog”, and therefore if the owner has to continually “look over the shoulder” of the design-builder, owner effort is increased).
- i. Provides opportunity to “fast-track”, i.e. start construction before completion of design.
- j. There may be lower design costs since designer does not have to “draw” to the same degree of completion as in traditional design-bid-build. That is, since

constructor is in the design “loop”, he will be able to do the work with less detailed and thorough drawings.

Some disadvantages to design-build are:

- a. Introduction of the likelihood of conflict of interest for the designer. The designer is the primary contractor or working for the primary contractor and is expected to make the most cost effective decisions for the design-build team and yet keep the customer’s best interest at heart.
- b. The selection process can be more lengthy and complicated. This is especially true for public contracts which must follow specified procedures to allow fair and open competition.
- c. Design-build is unfamiliar to courts, insurance companies, etc. which may result in unexpected problems.
- d. Design-build may be limited by licensing or procurement laws or regulations.

2.4 Contractual and Legal Relationships

To be able to understand the various legal aspects of design/build construction, it is helpful to understand the possible variety of contractual relationships and interactions between the parties involved, and how these relationships and interactions differ from the traditional approach. There are five basic design-build contractual arrangements, each with several possible variations.

The Design Professional as Primary Contractor is an arrangement in which the client contracts directly with the design professional for all design and construction services required to complete the project. The design professional



Figure 1: Typical Organizational Relationships with Designer as Primary Design-BUILDER

performs the necessary design services and contracts directly with the contractor to provide all required construction services. Figure 1 illustrates this arrangement. (Twomey, 1989)

Variations on this type of arrangement are sometimes necessary due to an A/E firm's limitations. For example one design professional may join with another design professional that has expertise or capability the first design professional lacks. Another variation is possible if the design professional has project management experience. For example, he may act as a general contractor and subcontract work to various trade contractors vice one general contractor.

The Contractor as Primary Contractor is a contractual arrangement in which the client contracts directly with the contractor for all design and construction services required to complete the project. The contractor contracts directly with the design professional, who supplies the contractor with all required design services. Figure 2 illustrates this arrangement. Variations of this arrangement may be required due to the contractor's or the design professional's limitations or preferences. The contractor may choose to function as a construction manager, subcontracting design to one or various design

professionals or consultants, and construction to various general, sub, or trade contractors. (Twomey, 1989)



Figure 2: Typical Organization Relationship with Contractor as Primary

The Joint Venture as Primary Contractor is a business and contractual arrangement by which the design professional and contractor enter into a joint venture agreement in which they contract with the client to perform all design and construction services required for the project. The joint venture agreement then delegates responsibility for the performance of these services to one or the other of these parties. If the parties of the joint venture (design professional or contractor) are limited in some capability, subcontracting of design or construction services may be done by the separate entities or as the joint venture. Figure 3 below illustrates this arrangement.(Twomey, 1989).

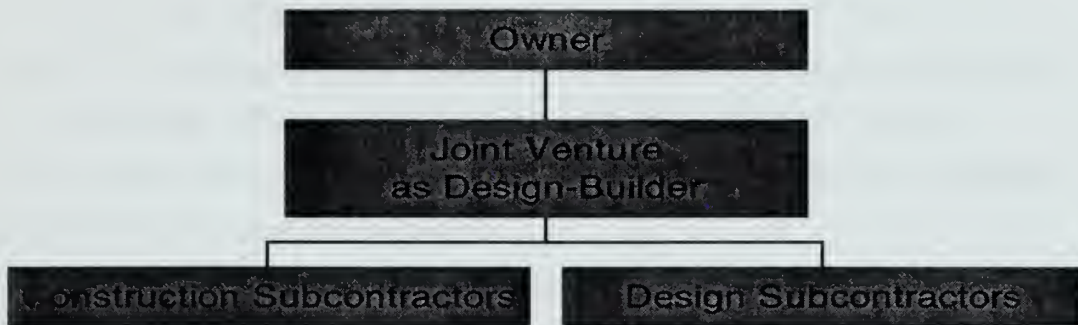


Figure 3: Typical Organizational Relationships using Joint Venture.

A fourth type of arrangement could be called a “joint corporation” (similar to a joint venture) for single or various projects. In this arrangement, a designer and constructor combine to form a separate corporation for the purpose of performing design-build projects. The corporation does not necessarily end after a project is complete but may “continue to live” so that future projects can be performed by the same “joint corporation”.

A fifth arrangement by which design-build can be performed is by a construction company that already has in-house construction and design capabilities. Some of the larger companies like Bechtel and Brown and Root, have design capability in-house and do not need to go to another entity to perform design-build.

Each of these contractual arrangements has unique aspects which may have legal and liability ramifications not normally of concern in traditional contractual methods.

2.5 Selection Procedures

It is obvious that the design-build method of project delivery will not allow the same selection procedures as traditional methods. Since a complete

design is not available at selection time, it is difficult to use low bid as the only criteria for selection. An owner does want some price competition, but also wants the best design and best overall qualified constructor. Additionally, certain procurement laws and regulations affect selection. Accordingly, various selection methods can be used for design-build.

One method is the Negotiation Method in which the client evaluates the qualifications of various design-build teams and makes the selection based on interviews or negotiations with representatives of the teams. There can be two approaches to negotiation method – direct selection and comparative selection:

- a. Direct Selection in which the client directly selects and ranks the most qualified design-build teams and then negotiates with highest ranking team to come to agreement regarding required services, approach, terms and conditions of the contract, and compensation arrangement. If the owner and top ranked team cannot come to agreement, the client (owner) negotiates with next highest ranking team, and so forth until he comes to an agreement with one of the teams.
- b. Comparative Selection in which the client selects the top 3 to 5 most qualified teams and invites them to submit concept proposals for the client's evaluation. This allows the client to ensure that the design-build team's concept is in line with the client's goals and requirements. From these, the owner can then select the most qualified that is in line with the owner's goals and requirements.

A second selection method is the Bidding Method in which design-build teams submit a design concept plus a cost proposal and the client selects a design-build team based on a lump-sum, cost plus, or guaranteed maximum price approach.

- a. Using Lump Sum, design-build teams are required to “propose their compensation” in the form of lump sum for all services, costs, and expenses

incurred in the design and construction of the project. The client's requirements must be very clearly described or risk misunderstanding and major problems.

- b. Using Cost Plus, the client pays the design-build team for the actual costs incurred in connection with the project, plus a fee (the fee may be fixed lump sum or percentage of actual costs).
- c. Using Guaranteed Maximum Price, the design-build team is compensated as it would be on a cost plus project, i.e. for the actual costs incurred in connection with the design and construction, plus a fee. This compensation is limited to a ceiling or guaranteed maximum price, beyond which the client is not obligated to pay. This approach reduces the risk of runaway costs.

A third method of selection is the Design Competition. Using this method, design-build teams submit detailed design proposals to the client, who selects the team based on the ability of their proposal to meet the requirements of the project. The winner of the competition is awarded the contract to complete the design and construct the project. Since design is relatively detailed and requires a significant amount of work, the client may reimburse or pay honoraria to the non-selected teams to defray some of their costs.

Of course each of these methods has its advantages and disadvantages and the decision regarding which method to use will be based on various factors that an owner must evaluate based on his requirements and limitations. Additionally, one must remember that new methods (e.g. bridging) or variations of existing methods are continually evolving to meet new or different requirements.

3.0 ANALYSIS OF LEGAL ISSUES IN DESIGN-BUILD

3.1 Introduction

Having briefly reviewed basic design-build concepts, the focus of the report is on specific potential legal issues that participants in design-build could possibly encounter. Since the extensive use of this method of project delivery is fairly new, and since part of the impetus to use design build is to decrease the potential for complexity and litigation, there is not a great deal of case law to demonstrate how the courts view the legal issues. However, there is enough to provide some insight to design-build entities to allow them to avoid the problems some of these issues can produce. This section describes several potential design-build legal issues, notes any case law regarding these issues, and provides suggestions for mitigating problems due to these issues.

3.2 Courts Understanding of Design Build

3.2.1 Explanation of the Issue

Should a design-build firm find itself in litigation, one of the first legal issues that may have to be addressed is the courts' understanding or lack of understanding of the design-build concept. There are various misunderstandings of what design-build is or is not. There can be a lack of understanding of the difference between design-build construction and traditional design-bid-build, or there can be a confusion of design-build with other construction concepts like fast-track and construction managers.

For example, one common misconception is that design-build is synonymous with fast-track. Though design-build construction can be used as a mechanism to do "fast-track" construction, they are not synonymous. Fast-track construction is a method of project delivery in which the sequencing of construction activities enables some portions of the project to begin before the

design is completed on other portions of the project (Twomey, 1989). Design-build can be combined with fast-track, and since the purpose of the fast-track method of project delivery requires a high degree of coordination between designer and constructor, it is apparent why design-build is often combined with fast-track construction. However, fast-track and design-build are not the same and do not have to be combined, and the misconception that they are synonymous has the potential to hamper the courts' understanding and rulings in already complex situations.

3.2.2 Case Law related to Courts' Understanding of Design Build

There are several cases that illustrate the courts' lack of understanding of design-build. Lack of understanding the difference between a traditional arrangement (owner contracting separately with designer and constructor) and design-build are illustrated in *Smith v. Shell Oil Co., et al.* and in *Playskool, Inc. v. Elsa Benson, et al.* *Smith v. Shell Oil Co., et al.* involved injury to tank cleaners due to electricity arcing from nearby power lines to the aluminum ladders on which men were working. The power lines were allegedly too close to the tanks and should have been buried.

Shell had hired a general contractor (Woodward) to construct a new office and laboratory. The general contractor for the overall project (Woodward) subcontracted the power line installation to a design-build subcontractor (Northside) who itself subcontracted the design to a designer (Vivien) and the installation to a separate installer (Highlines). Since Vivien had done the design for the power line installation, Vivien was named as a defendant for negligent design.

The court found in favor of Vivien, conceding that Vivien clearly owed a duty to the plaintiffs to protect them from injury due to negligent design, but allowed Vivien to take refuge under a Louisiana statute providing immunity to

contractors when work is performed according to plans and specs. The reasoning was apparently based on the fact that the owner (Shell) had provided some specific directions regarding the power line installation and the designer had relied upon these oral design directives of the Shell representatives. From this the court concluded that Vivien was immune from liability under the statute. Aside from use of the statute for other than its intended use, this showed the courts' lack of understanding of the design-build concept and, if let stand, would have relieved design-build design professionals of any duty to injured third parties so long as the work was performed under subcontract and the owner provided design input, which is common and one of the benefits of design-build. This decision was reversed by the Supreme Court of Louisiana.

In *Playskool, Inc. v. Elsa Benson, et al.* an owner (Playskool, Inc.) filed suit against the design-build contractor (Benson) to recover for construction design defects to a new warehouse facility. Since many of the problems were due to the design by a subcontractor of Benson (CST), Benson tried to pass along much of the liability to CST, claiming that it had relied on the superior expertise of its design-build subcontractor. The court rejected Benson's claim, emphasizing that Benson was the architect of record and retained right of approval over the drawings of CST. The court stated that "whether or not Benson had sufficient knowledge of pre-cast concrete construction requirements when building the Playskool facilities is not important. The fact is that Benson should have had such knowledge."

This broad language is contrary to design-build concepts, since design-build contractors may in fact have to rely on the expertise of specialty contractors and may not have the knowledge to know if the specialty work is or is not correct. Stated thoroughly and concisely by Whitney (1995), "the Playskool decision can be read as creating a presumption that a design/build contractor may not maintain

a common-law indemnification action against its design subcontractor as a matter of law. Such a rule is unjustified.”

Lack of understanding the distinction between design-build and fast track has led to confusion in at least three court decisions. In *ESO, Inc. v. Kasparian*, the owner had separate contracts with a designer and constructor for reconstruction of a commercial property. Construction commenced before plans and specs were completed, making the project a typical fast-track, but not design-build since the owner had contracted with separate entities for design and construction. The court showed its lack of understanding of the difference of the concepts by stating that the work to be performed “is known as ‘design/build’ fast-track, which means that the owner, architect, and the general contractor design the building and perform the construction at the same time.” The court appeared to consider that the design-build and fast-track were one in the same.

On the other hand in *Conam Alaska v. Bell Lavalin, Inc.*, the court’s apparent understanding was that design-build and fast-track are mutually exclusive. The owner in this case had entered into a design-build contract for all engineering, design and construction of four 55,000-barrel oil storage tanks. Expert testimony in the case stated that “in a design/build project, the contractor has complete plans for the whole project before building begins.” The court relying on this (incorrect) testimony concluded that the failure to finalize the plans before construction began “changed the nature of the project from design/build to fast-track construction.”

The court in *R&S Construction Company v. BDL Enterprises, Inc.* initially clearly defined the distinction between design-build and fast-track, but appeared not to understand the distinction when describing the project at issue. The project was to be a fast-track project using the traditional arrangement of the owner contracting separately with a designer and constructor. The courts stated that “a fast-track project is where the design and construction periods overlap [and a]

design-build project is where the design and construction functions are done by one entity.” However, the court then characterized the project at issue as being “conducted under a ‘fast-track/design-build’ approach.

From these cases, it is clear that all courts do not clearly understand the design-build concepts and the affects of the language and decisions the courts have rendered on design-build cases. Though it is not clear in these cases whether or how much the confusion affected the outcomes of the cases, a misunderstanding of these fundamental concepts could lead to difficulties when grappling with typically complex issues that arise in construction disputes (Whitney, 1995), and could lead to rulings and language that unjustly restrict the future of design-build.

3.2.3 Suggestions for Management of the Courts’ Understanding

- a. The construction counsel should strongly consider offering expert testimony to assist the trier of fact to understand the complex roles of the various participants in a design-build project (Whitney, 1995).
- b. Since it may not be realistic to expect jurors with limited or no construction knowledge or experience to sort through pages of construction documents trying to determine legal obligations of the parties involved, the trial counsel should consider whether to forego a jury trial in favor of a bench trial. (Whitney, 1995)

3.3 Liability

3.3.1 Explanation of the Issue

In the traditional construction organizational arrangement (design-bid-build) the designer is required to exercise a standard of minimum professionally acceptable conduct, and a contractor is required to complete the project according to plans and specifications. The current American system of law dictates that,

unless otherwise stated in a contract, the design professional that performs design services exclusively will be liable only for the design of the project. Likewise, the contractor, when acting exclusively in that capacity, will be liable for the construction of the project.

These basic principles may change if either or both the design professional and contractor provide services outside of their respective traditional disciplines (Twomey, 1989). With design-build, the design-builder is expected to complete a project that will be warranted to meet the owner's specified program and criteria and be constructed within budget, encompassing both designer and constructor requirements and standards of performance. This difference complicates liability in design-build so that designers and constructors who are normally only liable for their own work, may find themselves (knowingly or unknowingly) liable for the work of other parties in a design build entity. For example, a designer who is accustomed to aspects of liability only related to design (errors and omissions using Professional Standard of Care) when acting as the primary design-builder may find himself liable for construction errors, personnel injury, or cost overruns and may find itself held to a stricter standard of performance (i.e. professional standard of care is not considered adequate for in-place construction). Or, a construction contractor acting as the primary design-builder may find itself liable for design errors or omissions, inadequate capacity of a completed facility due to inadequate design, or for express warranties.

Another issue that could be of concern to a design-builder is impossibility of performance. When design-build is used in performance guarantee situations, a problem may arise if the design-builder, after he has entered into a contract with an owner, finds that he cannot meet the performance specification. Using design-bid-build, a contractor could claim that the design or specifications were impossible to perform. With design-build, the defense may not be accepted.

Though these issues can be managed with proper assignment of responsibilities and liability insurance, both design professionals and contractors must address this issue at the start of a design-build project.

3.3.2 Case Law Related to Liability

In several recent court cases designers have been held responsible for cost overruns, construction errors, and personal injury on design build projects, losing suits brought by their design build partners. In *Maddox v. Benham*, the designer was found liable for breaching an implied warranty that its design was sufficient to enable the contractor to adequately price the project in its design-build proposal to the owner (Wickwire Gavin, 1998).

Skidmore, Owings, & Merrill v. Intrawest I Limited Partnership, is not a design-build case, but, as does the *Maddox* case, it provides support for the position that the risk of cost overruns due to design deficiencies will be born by the A/E. In this case the A/E (Skidmore, Owings, and Merrill) provided drawings to the owner that were represented by the A/E as being 90% complete. The at-risk Construction Manager provided a guaranteed maximum price based on these drawings. During construction, major drawing defects and substantial changes were encountered increasing project cost and delaying completion. Evidence showed that the drawings used to develop the GMP were actually 50% to 65% and not 90% complete. Accordingly, the jury awarded the owner \$820,372 for omissions from the design, stating that “where a person holds himself out as qualified to furnish, and does furnish, specifications for a construction project, he thereby impliedly warrants their sufficiency for the purpose in view.” Applying this principle to design-build, litigation could arise between the parties of the design build team (designer and constructor) should a significant cost overrun occur due to design issues.

In *CRS Sirrinc, Inc. v. Dravo Corp.*, the contractor successfully sued its design joint-venture partner, claiming that the designer's breach of contractual and fiduciary duties to the contractor caused quantities of construction materials to exceed the amounts carried in the fixed-price bid, which was based on the design and technical information provided by the design partner (Whitney, 1995).

In two other cases, design professionals were held subject to liabilities that they would not normally be subject to. In *Kishwaukee Community Health Services v. Hospital Building and Equipment Co.*, Kishwaukee Community Health Services sued the design-build joint venture for design and construction errors. The court held that the contractor and two design professionals that had been retained for the design of the project (the defendants) were hired "as one cohesive group, with each liable under the contract." Therefore, the architect was held liable not only for design errors but also for construction errors (Buesing, Jan 1990).

In *United States Fidelity & Guaranty Co. v. Continental Casualty Co.*, a workman was injured at a job site where an architectural firm was allegedly in charge of the construction. The architectural firm was sued and lost. The architect was protected by liability insurance, however the firm's two insurance carriers disputed who was liable (Buesing, Jan 1990). This case will be discussed more in Section 3.4 on Insurance Coverage.

The final two cases, though not technically design-build contracts have some of the characteristics of design-build contracts and illustrate possible liability for a design-builder. *Fort Howard Paper Co. v. Standard Havens, Inc.* illustrates possible liability of a design-builder regarding express warranties it makes about the capabilities of a completed project. Standard Havens, Inc. designed, built, and installed a pollution control device (air filter systems) for an owner, Fort Howard Paper Co., with specific performance guarantees, one in particular being a warranty against clogging and pressure drop due to clogging.

The device did not comply with this warranty and therefore the owner (Fort Howard Paper) filed suit. The court ruled in favor of the owner concluding that the seller of the pollution control device had breached the pressure drop warranty.

A final case illustrates the potential issue of impossibility of performance. In *Colorado-Ute Electric Association v. Envirotech Corp.*, a contractor (Envirotech) agreed to provide an air pollution control device to meet specific performance requirements (state air quality standards), and specifically warranted that it would bear the cost of all corrective measures and field tests until compliance was achieved. The contractor could not meet the agreed to performance requirements and therefore the owner filed suit. The contractor claimed impossibility as a defense and claimed that the owner had failed to provide some key information. The court concluded that the contractor had knowingly assumed the risk of impossibility and therefore ruled in favor of the owner.

3.3.3 Suggestions for Managing Liability Issues

- a. Both contractors and designers must be aware of the possible shift of liability that accompanies involvement in a design-build entity and address the possibilities contractually if possible.
- b. At the outset of the contracting arrangement, the design-build team should address in writing who is responsible for cost overruns due to the design and then allocate the liability appropriately. (Wickwire Gavin, 1998)

3.4 Insurance Coverage

3.4.1 Explanation of the Issue

The differences in design-build and traditional design-bid-build construction have introduced problems in the arena of insurance coverage. By placing the design and build responsibilities in the same entity, the design-build

method creates a situation in which insurance coverage for two different kinds of functions has the prospect of a gap or overlap in coverage (Asselin and Stout, 1995). For example, designers normally carry professional liability insurance (a.k.a. Errors and Omissions Insurance) to cover claims due to professional negligence or malpractice, while other types of insurance obtained by an owner or contractor (builder's risk or commercial general liability) are meant to complement (and not overlap) and therefore specifically exclude claims arising for design services. Contractors normally carry Commercial General Liability Insurance (CGL) to cover claims for bodily injury or property damage arising from construction work. This insurance typically excludes any claims due to design work and does not include correction or replacement of defective work, which is considered to be a business expense or risk by the contractor.

Contractors or designers involved in design-build will find themselves in non-traditional roles and in circumstances not normally covered by insurance carriers, and may have difficulty finding carriers that will fully insure them for the various possible liabilities or may not realize that they have gaps or exclusions in insurance coverage. Until recently (1995) insurance carriers had no policy specifically designed to cover design-build arrangements. Accordingly, design-builders had to cover claims possibilities using separate types of policies, and had to make sure that the policies and policy exclusions were such that no gaps occurred in coverage and even when the design-build entity had covered itself in all possible ways, several lawsuits resulted from disputes between commercial liability carriers and professional liability carriers about which was liable for specific damages.

Insurance carriers were at first understandably reluctant to provide policies specific to design-build, since insuring in the traditional way was clear-cut and determination of fault was relatively easy. With design-build, uncertainties are introduced which made determination of liability or fault much

more difficult. Eventually, to satisfy the requirements of their customers, some in the insurance industry (e.g CNA/Schinnerer) have recently created policies to meet this new need. Nevertheless, attention to this issue is important for design-build entities.

3.4.2 Case Law Relating to Insurance Coverage

Three cases can be cited which illustrate the potential problems with insurance coverage. *United States Fidelity & Guaranty Co. v. Continental Casualty Co.*, illustrates the confusion and conflicts between insurance carriers regarding what is covered by different types of insurance. In this case, a workman was injured at a job site where an architectural firm was allegedly in charge of the construction. The architect was protected by professional liability insurance through Continental Casualty Co., and by multi-peril insurance through USF&G. There was no question that the architect was covered, but the two insurance carriers disputed who was liable for the coverage (Buesing, 1990). The USF&G multi-peril coverage excluded coverage for personal injury or property damage arising from providing professional services. Continental's policy covered liabilities for errors and omissions or negligent acts resulting from the firm's performance of "professional services". Continental argued that the A/E firm's activities were more in the nature of a "design-build architect" than a "traditional architect" and that its professional services policy covered only traditional architectural services and not design-build architectural services. The court held that Continental's policy was not specific enough to exclude claims arising from job site activities as a design-build architect.

Harbor Insurance Company v. Onmi Construction, Inc., is another illustration of what is covered under specific insurance policies. In this case, a contractor (Omni) contracted with an owner to construct an office building and parking garage on a lot adjacent to another building. The excavation of the site

for the new building caused settlement damage to the adjacent existing building. The contractor agreed to repair this damage but sought to cover the repair costs from its excess liability carrier (Harbor). The excess liability policy covered accidents resulting in property damage, however it included an Endorsement, the “Engineers and Architects Exclusion” which excluded from coverage “... property damage arising out of the rendering of or the failure to render and professional services by or for the named insured...”

The liability carrier contended that the damage to the building was due to an error in the design of the sheeting and shoring system done by an Omni subcontractor, and therefore coverage was excluded. The contractor denied that the design of the sheeting and shoring system caused the damage, however it argued that whether or not this was the cause, the subcontractor’s design was not a professional service but a “means or method” of construction when done in this situation. The court found that “ a reasonably prudent lay person would believe that the Endorsement does not exclude coverage for damages resulting from professional engineering services rendered incidental to the construction work, such as the sheeting and shoring design of a subcontractor.” The court concluded that the Endorsement excludes only stand-alone professional services and that Omni’s loss was covered.

Riley Stoker Corp. v. Fidelity & Guaranty Insurance Underwriters, Inc. illustrates the possibility of gaps between different types of insurance. In this case, the contractor (Riley Stoker) contracted with an owner to design and construct two coal fired steam generators. After installation and initial operation by the owner, key equipment (ball tube mills) which had been designed and built by a Riley Stoker affiliate, was found to be defective and caused delays, repairs, and loss of use of the generators, for which the owner filed suit. The contractor (Riley Stoker) notified its comprehensive general liability insurer and requested defense and indemnity. The insurer denied coverage and Riley Stoker filed suit.

Riley Stoker claimed that the ball tube mills were the work of the design-build affiliate of Riley Stoker and not Riley Stoker, and therefore that work is not excluded under the product and work exclusions of the insurance policy. However, the court found that there was “substantial evidence that their [the design affiliate] design was supervised and driven by Riley Stoker, and the installation was performed by Riley Stoker,” and therefore the court ruled the coverage was excluded under the policies work and product exclusions.

3.4.3 Suggestions for Managing Insurance Issues

Asselin and Stout (1995) provide a concise and helpful list of suggestions for managing this issue.

- a. If the design-builder desires to limit its liability for negligence in design to traditional standards and to the amount of professional liability insurance provided by the designer, it needs to make that limitation a clear part of its agreement with the owner.
- b. The general contractor who is acting as a design-builder or as a partner in the design-build entity, should make certain that sufficient coverage for both the design and construction functions is in place (Asselin and Stout, Aug 1995).
- c. If a design-builder desires to limit its liability for negligence in design to traditional standards and to the amount of professional liability insurance provided by the designer, it needs to make that limitation a clear part of its agreement with the owner. (Asselin and Stout, Aug 1995)
- d. If a general contractor who is acting as a design-builder or as a partner in a design-build entity, he should make certain that sufficient coverage for both the design and the construction functions is in place. (Asselin and Stout, Aug 1995)
- e. A design-builder who does not want to rely wholly on the insurance obtained by the design professional can obtain other types of insurance (construction

manager's liability insurance, contractor's errors and omissions insurance, contractor's professional liability insurance, or contractor's malpractice insurance) to cover its design liability.(see Asselin and Stout Aug 1995)

- f. A general contractor involved in a design-build entity should ensure that the professional liability insurance carried by the design function is sufficient. That is, are limits high enough, are the deductibles low enough, and does the policy contain a "tail" for coverage of design error in the future (after project completion). Failure to do this could result in expansion of the general contractor's risk for design error.
- g. The prudent general contractor will obtain professional errors and omissions coverage for professional services rendered by it or on its behalf, whether or not it conducts itself as a design-build general contractor (Whitney, 1995).

3.5 Bonding

3.5.1 Explanation of the Issues

There are at least three potential bonding issues related to design-build. The first issue is whether the performance bond of a design-build entity covers construction only, or both construction and design. A surety must be able to determine their exposure, and with design-build the surety is not sure of the design exposure or how to measure it. In traditional design-bid-build construction, the surety typically covers the constructor, and the designer is covered by professional liability insurance. With design-build, bonding companies may be assumed to or required to cover both the construction and the design function. They are reluctant to do this and though they may not intend to do this, an assumption of the part of the courts might, in effect, cause this to occur. Disputes can arise as to whether a claim of defective design against a design-build contractor's performance bond is a covered claim.

A second issue related to the first is the difference between constructor liability and professional liability and the criteria used to determine liability. The criteria for liability and coverage of a builder is rather strict, based on specific and definable criteria (Asselin and Stout, 1995), while criteria for liability for a design professional is less easily defined and based on standard of care. Accordingly, even if it was determined by a court or conceded by a design-build surety that the performance bond covered the design as well as construction, which criteria would be used to determine whether the design-build entity was liable?

A third potential issue is the risk assumed by a constructor (acting as subcontractor to a designer) when his bonding capacity is “used” by the design-build entity. Performance bonds are based on 1) the amount of liquid assets of the one to be insured, and 2) the experience and track record of the one to be insured. Typically, designers do not need to get performance bonds and except for very large firms, do not have the assets required by a surety. Accordingly, a design-build entity with a design professional as its head may have difficulty getting a performance bond without using the bonding capacity of the general contractor (assuming the contractor is agreeable). This creates some risk on the part of the contractor, since his assets and reputation are at risk and he is not necessarily in control of the project. That is, if a design-build entity fails to perform adequately and the contractor’s surety has to step in to correct the situation, the contractor’s assets will be at risk as the surety tries to recover his loss. If the design-build firm entity was headed by a designer and the constructor felt that the lack of performance was due to the designer, then suit could be filed by the contractor against the designer.

3.5.2 Case Law Related to Bonding Issues

One case illustrates the potential for bonding issues in design-build construction. *Nicholson & Loop, Inc. v. Carl E. Woodward, Inc.* illustrates the

exposure of a surety to design related claims and may be the first reported case involving suit against a surety on a design-build project. The case involved suit against the design-build contractor and his surety due to severe differential settling of a structure (supermarket) after construction was complete. The contractor also carried errors and omissions insurance. The court found that the problem resulted only from design deficiencies and not from construction deficiencies, however the court still awarded judgement against the contractor and its surety, finding that the surety guaranteed performance of the contract and the design responsibilities performed by the architect were part of that contract. The contractor sought a special ruling from the court that liability was based on design and not construction defects. This was done by the contractor with the motive of shifting responsibility from the surety (who was liable for construction defects) to the errors and omissions carrier who was liable for design defects. This strategy did not work, however, since the court still found liability against the surety. However, this may allow the surety to assert a common-law right of indemnification against the contractor's professional liability carrier.

3.5.3 Suggestions for Managing Bonding Issues

- a. A general contractor involved in a design-build entity must realize that he may be undertaking a greater share of the risk than normal, since a) courts may consider that a performance bond covers both construction and design, b) the designer's professional liability coverage is limited, and c) since a general contractor usually has more significant assets than a designer, his assets may be at risk even though the error was design and not construction. That is, a surety that is held liable for a design error will be looking to the general contractor's assets for reimbursement.
- b. A surety providing bonding for a design-build entity should be aware of

Nicholson & Loop, Inc. v. Carl E. Woodward, Inc. and understand that even though he does not understand or intend the bond to cover design, the courts might rule that he does.

- c. Both the general contractor and the surety should verify what is the limit of the designer's professional liability insurance.

3.6 Licensing

3.6.1 Explanation of the Issue

Licensing requirements and statutes are based on the traditional arrangement of construction (i.e. separate designer and contractor). Accordingly, contractors are typically licensed to do construction and designers are typically licensed to do design. Since the structure of design-build entities makes a designer or contractor responsible for design and construction, a question arises as to what licenses are required by whom and the legality of the licensing.

In considering whether the design-build entity is properly licensed, courts typically look to the contractual relationships between the parties to verify that the public policy goals of the licensing statutes are met (Asselin and Stout, 1995). However, licensing laws and statutes differ from state to state and in the federal arena. Some states (e.g. Florida, North Carolina, Rhode Island, Washington and Vermont) have licensing laws that facilitate design-build activity to a greater extent than other states, by exempting design-build from licensing statutes. Some states (e.g. New York and Texas) have not statutorily exempted design-build from licensing statutes but have done so through judicial decisions, and therefore facilitate design-build activity. On the other hand, some states have licensing laws that effectively prohibit or have been interpreted to prohibit design-build. Iowa and New Jersey have judicial decisions that interpret state license laws adversely to design-build.

Of concern to a design-builder are two key licensing issues. The first is the legality of the performance of the work (design or construction) by the design-builder in the state in which he is working. In order to perform services (design or construction) legally, and avoid stopping of a project or legal action against the firm, the design-builder must ensure that he has the appropriate licenses to perform the work he is responsible for. The second issue is a self-protection issue. If no one checked a design-builders license, he could conceivably complete a project without having the proper licenses, assuming that the design and construction were correct. However, should a dissatisfied owner need an easy way to justify termination or withholding payments, claiming lack of licensing against the design-builder is a prime means of getting a contract declared unenforceable. Accordingly, licensing is critical to a design builder since failure to comply with local and appropriate licensing laws could provide “ammunition” against him when a dissatisfied owner decides to terminate his contract or withhold payment.

3.6.2 Case Law Related to Licensing Issues

Historically, lawsuits involving design-build licensing problems have arisen most often with contracts that are abandoned during or at the end of the design stage (Cushman and Taub, 1992), with the owner attempting to use the lack of appropriate licensing as a way to easily terminate the contractor and avoid paying. Available case law regarding licensing issues illustrates this as well as the differences in statutes between different states.

In *Seaview Hospital, Inc. v. Medicenters of America, Inc.* an owner brought suit against a licensed general contractor who was not licensed as an architect but had procured design services from subcontractor architects who were properly licensed in the state where the work was done (Texas). The court upheld the validity of the contract, saying that “the stated purpose of both statutes [

relating to licensing of architects or engineers] is to protect public health, safety and the general welfare by insuring that architectural and engineering work be performed only by qualified persons who are duly licensed.”

Though the circumstances of *Food Management, Inc. v. Blue Ribbon Beef Pack, Inc* were very similar to *Seaview Hospital, Inc. v. Medicenters of America, Inc*, the Iowa court ruling was just the opposite. In *Food Management*, an owner (Blue Ribbon Beef Pack) contracted with a contractor (Food Management) to design, supervise construction of, and initially manage a meat packing plant. The contractor was not licensed as an architect in the state where the work was performed (Iowa), but had procured the design services from subcontractors who were properly licensed in Iowa. Even though the contractor had subcontracted the design work to an Iowa licensed architect, the court ruled that the contractor had engaged in unauthorized practice of architecture or engineering, reasoning that the contractor was in responsible charge of the work and was not “merely executing [the subcontractor A/E ‘s] plans.” Accordingly, the “portion of contract relating to architectural and engineering services was illegal and unenforceable.”

In the New York case *Charlebois v. J.M. Weller Associates* an owner (the Charleboises) entered into a design-build contract with a contractor (J.M. Weller and Assoc.) to build a new warehouse and an addition to an existing building from which the owner operated his beer distributorship business. Disputes between the owner and contractor arose during construction over cost, design, building code compliance, and other alleged defects. The owner refused to make further payments (of allegedly \$600,000) until the disputes were resolved to their satisfaction. After the contractor demanded arbitration, the owner instituted legal action seeking that the contract was invalid as against public policy because it violated the state’s Education Law 7202 and 7209(4). By a 4 to 3 vote, the court of Appeals of New York held that design-build contracts between and contractor

and an owner were not against public policy so long as design work was done by a licensed architect or engineer, ruling that the contract was indeed valid.

Finally, in *SKR Design Group, Inc. v. Yonehama, Inc.* the New York court decision was consistent with *Charlebois v. J.M. Weller Associates*. In this case, a contractor (SKR) represented itself (by letterhead) to a restaurant owner (Yonehama) as an architectural and interior design firm (i.e. provided “architectural and interior design services”). The contractor and owner entered into a design-build contract, but prior to the end of the project, the owner terminated the contract due to construction delays and other disputes. The contractor filed suit for the balance of the contract. The owner attempted to have the case dismissed on the basis that the contractor was not licensed to perform architectural services under New York law. That the contractor was not a licensed architect was undisputed, however the New York court found that since 1) the contract did anticipate that the design work would be done by a properly licensed architect subcontractor and 2) the design was actually done by a properly licensed architect, then the policies underlying the governing law (New York Education Law) were satisfied and the contract was therefore valid.

3.6.3 Suggestions for Managing Licensing Issues

- a. It is clear from the above discussion and legal cases that design-build entities need to be aware of local (state) licensing requirements, statutes, and judicial decisions in order to avoid illegal work on their part or the use of the statutes by an owner as a means of contract termination or withholding of payment. A state by state review of licensing requirements is provided by Cushman and Taub (1992) in their *Design-Build Contracting Handbook*.
- b. Asselin and Stout (August 1995) provide the following list of questions a design-builder should ask himself in order to manage licensing issues:
 - 1) Is design-build specifically addressed by statute (in this state)?

- 2) Does a design-build joint venture need to get a special license, or will the individual licenses of the designer and the contractor meet the statutory requirements?
 - 3) Do the licensing statutes for architects, engineers, and contractors indicate, in some fashion, how the design-build entity needs to be structured in order to comply with the statutory licensing requirements?
 - 4) If a design-builder has a licensed architect on staff, will that meet the licensing requirements for design?
 - 5) Can an owner contract for design-build services directly with a licensed designer that does not have a contractor's license or directly with a licensed contractor that does not have an architect's license?
 - 6) If the design-builder does not have a license as an architect or an engineer, and does not have an employee who is licensed as such, will the requirements for a licensed architect be satisfied by subcontracting the architecture or engineering to a licensed architecture firm?
- c. Before offering or soliciting design-build work, apply to the state licensing board for a Certificate of Authority for the corporate practice of architecture. (Halsey and Quatman, 1989).
 - d. Insert in the design-build contract a provision or obtain a separate waiver signed by the owner that clearly indicates:
 - 1) That the owner is aware that the design-builder is not licensed, but that licensed architects and engineers will be subcontracted for the design portion of the project, and
 - 2) Waives the owner's right to use the lack of license against the design-builder (Halsey and Quatman, 1989).

3.7 Conflicts of Interest in Design Build

3.7.1 Explanation of the Issue

Under the traditional construction arrangement in which the design professional has a contract with the client, a fiduciary relationship exists between the client and the design professional. There is kind of balanced tension between the designer and contractor that works to keep the two separate entities honest. For example, the designer is under contractual obligation to identify contractor work that does not comply with plans and specifications, and conversely the contractor has a vested interest in identifying any design errors in order divert the blame for any future problems or the cost for correcting current problems from himself to the designer. The design professional is expected to protect the interests of the client even if in opposition to the construction contractor and vice versa.

In design build arrangements in which the design professional works for the contractor and not the client, this fiduciary relationship does not exist (at least to the extent of traditional methods). That is, “the combination of design and construction responsibilities in one entity deprives the owner of the checks and balances protection inherent in the traditional project delivery system” (Whitney, 1995).

For example, typical responsibilities of a design professional might be certifying quality and completeness of work before payment of a contractor, approving contractor requested changes in methods or materials, and ensuring that the changes are valid and that the methods and materials are of appropriate quality and reasonable costs. In a design-build arrangement, the design professional performing these responsibilities would be certifying and approving his business partner and would making decisions and judgements that would directly affect his business and financial status. Even though design professionals have an ethical responsibility to their customer and the public to provide safe and

quality design whether or not they have a contract with the owner, the temptation may exist to “cut corners”, e.g. use lower quality (and therefore cheaper) materials to maximize the profit of the design-build entity.

A related issue is the expectation of the owner or client. Having been involved in projects where the designer worked for him, the owner may expect the architect to perform and behave the same as if he worked directly for the owner. Though the designer still has legal and ethical responsibilities, his perspective will be much different and therefore the owner will probably have to adjust. The owner must realize that design-build is different than traditional construction and must allow for the differences.

3.7.2 Case Law Related to Conflicts of Interest

At least four cases that illustrate the potential problems due to conflicts of interests.

Wise v. State Board for Qualification & Registration of Architects is not a dispute between an owner and an architect due to a conflict of interest, however it illustrates how one court viewed this idea of conflict of interest. In this case, an architect (Wise) working for a design-build firm applied for reciprocity of license in another state. The licensing board did not find his experience working for a design-build firm to fully fulfill the requirements for diversified experience in the offices of a registered architect. The Georgia Supreme Court found that the licensing board’s decision was not unreasonable, and noted the conflict of interest when an architect is the employee of a design-build firm.

“ In many respects, the architect is seen as an antagonist to the contractor, as the contractor is seeking maximum profit, while the architect is seeking the best financial product possible. Individuals working in the setting of a design-build firm experience a constant conflict of interests not normally present in the setting of an independent architect. Thus, the experience requirement in question is rationally related to the legitimate state interest of ensuring that all licensed architects are properly qualified and will

competently practice in the interest of the public health, safety, and welfare.”

Professional Builders, Inc. v. Sedan Floral, Inc. was an attempt by an owner to set aside an arbitration award to his design-builder. The owner had hired a design-builder and designated the design-builder’s architect (who was also the design-build company’s vice president and 50% owner) as the owner’s representative. At completion of the project, the owner argued that the design-builder’s architect (the owner’s designated representative) had wrongly certified completion. The owner also argued that the certification was fraudulent and in the financial interest of the design-build firm (instead of the owner’s best interest) and that the architect had a conflict of interest.

The court found that the architect did have a conflict of interest and may have fraudulently induced the owner into signing the contract, but since the arbitrator had heard both arguments, the court did not second guess the arbitrator even though he had reached a different conclusion. The court affirmed that the award could only be vacated if fraud had occurred in the arbitration process, which it had not.

Though *Aiken County v. B.S.P. Division of Environtech Corp.* was not overall a design-build project, it had a design-build element which illustrates a conflict of interest. Aiken County contracted with a designer to, among other things prepare plans and specs, to review the bids and to certify the equipment as complying with plans and specs. After preparation of plans and specs, project execution was awarded to a contractor who then subcontracted (lump-sum) with a specialty company (Environtech) to design and supply necessary heat treatment equipment. The design of the owner’s designer allowed for two types of heat treatment systems. The specialty subcontractor initially represented that it intended to install one of the two types of systems allowed, but then through

fraudulent misrepresentations and concealment, convinced the owner to grant a change order to install a different type of system which was known to have a poor success record. The court ruled against the specialty subcontractor and imposed punitive damages of \$1 million.

In *Combustion Engineering, Inc. v. Miller Hydro Group* (Whitney, 1995), an owner (Miller Hydro Group) hired the design-builder (Combustion Engineering) to design and build an electric generating turbine facility based on two performance specs: 7800 cubic feet per second flow capacity of water and 14 megawatt power generation capacity. The contract provided that the contractor could earn a sliding-scale bonus for efficiency to the effect that the facility produced power in excess of 77,500 megawatt hours per year and a corresponding penalty for output less than 73,500 megawatt hours per year. The key concept was that the plant should be built to the specified performance specifications, and the bonus was incentive for the right size plant to be highly efficient. The maximum bonus anticipated by the owner was \$850,000.

Post-completion tests showed a capacity of 9,000 cubic feet per second flow and 18-19 megawatts of power, resulting in a claim by the contractor of an \$8 million bonus. This also put the owner at risk of violating federal license terms and having to rebuild fish protection facilities. Accordingly, the owner then refused to pay final payments (of approximately \$1.3 M), a claimed early completion bonus of almost \$900,000, and the claimed efficiency incentive bonus of \$8M, and filed suit for breach of contract. The owner based this on the claim that the designer deliberately over-designed the facility to get the large bonus and had provided false information to the owner, preventing the owner from realizing the over-design until it was too late to make modifications. The owner went so far as to claim that the contractor had spend \$1M of his own funds in order to over-build the facility so he could claim the \$8M bonus. The court ruled in favor of the owner in this case, agreeing that the contractor had breached the contract

since “there was no evidence that the owner knew of or had agreed to the increase in capacity and substantial evidence indicated that the contractor sought to conceal the deviation.”

These cases illustrate the conflict of interest that can occur between the profit oriented business side of the design-build entity and the engineer/design side of the design-build entity. Though cases like these involving deliberate fraud or deception are not going to be the norm, it illustrates that the conflict is there and may have serious consequences in less than ethical design-build organizations. It is also apparent in *Aiken County* that even if an owner has outside design expertise to check the design-builder, he may still be deceived and mislead.

3.7.3 Suggestions for Managing Issues Related to Conflicts of Interest

- a. Realize the difference in the relationships and expectations of the parties involved regarding responsibilities.
 - 1) The owner must realize that the designer in a design-build arrangement does have a vested interest in the business aspect of the project and therefore may not be as willing or as zealous in acting on behalf of the owner.
 - 2) The general contractor who is paired with a designer as a design-build entity must realize that though the designer is “on his team”, the designer does have some ethical and legal obligations to the owner that may cause him to act in a different way than the general contractor might have expected.
 - 3) Finally, the designer must realize that there is an inherent conflict of interest in the design-build arrangement and therefore while he has a vested interest in the project succeeding financially, he also must guard against any tendency to let his financial interest or his relationship with the contractor sway design related decisions.
- b. Verify that the design-build entity (and its participants) with which one is

dealing has a reputation of ethical practices and behavior.

- c. Hire a special independent consultant to deal with matters such as design issues, progress payments, changes, and substantial completion. For example, hire an engineer or architect as an independent check of the design-builder.
- d. To prevent the misleading of a client or confusion of expectations, a written disclosure can be prepared by the design professional stating that a fiduciary relationship does not exist

3.8 Mechanic's Lien

3.8.1 Explanation of the Issue

Traditionally and technically, a mechanic's lien entitles a party who provides goods or services to a project to place a lien on the property which is a recognition of a debt owed by the property holder to the person who placed the lien, and which must be paid by the property owner within a statutorily prescribed period of time. If this is not done, the lien holder can sell the property and use the proceeds of the sale to pay the amount of the lien (Twomey, 1989). A critical issue for a design-builder is whether the general contractor acting as design-builder has lien rights for design services performed by a design subcontractor, or whether a designer acting as design-builder has lien rights for construction work performed by the constructor acting as subcontractor (Asselin and Stout, 1995).

3.8.2 Case Law Related to Liens

Three cases illustrate the issue mentioned above. In *Miller Construction Co. v. First Industrial Technology Corp.* the contractor acting as design-builder (Miller) subcontracted the design to a licensed architect. At the time of the contract (1988), Florida had not passed Florida Statute Annotated Section 481.229(3) which permits a general contractor to perform design build without an architect's license as long as architectural work is done by an architect. The

preliminary design and additional design services were performed by Miller (i.e. his design subcontractor) for which the owner refused to pay. Miller claimed architect's lien for the design services and mechanic's lien for providing drawings to obtain financing on the project. The court rejected the architect's lien because Miller was not a licensed architect (though the design subcontractor was) and rejected the mechanic's lien because the court did not deem furnishing drawings to obtain financing an improvement to the owner's property.

In *Premier Investments v. Suites of America*, a developer agreed with an owner to develop plans, specifications, and construction budgets and be responsible for construction, equipping, staffing, and opening of a hotel project. Accordingly, the developer was acting, in essence as a design builder. The ownership changed hands during the developers performance of the work, and the new owner directed the developer to suspend work and then filed for bankruptcy. The developer was then denied a mechanic's lien because he was providing only supervisory services in construction and was not entitled to file mechanic's lien as a contractor or laborer

In *Combustion Engineering Inc. v. Miller Hydro Group, et al.* (situation was described in section 3.7, Conflicts of Interest) Combustion Engineering claimed a mechanic's lien in the amount of \$10.3M, which included payments for actual work as well as efficiency and early completion bonuses. The trial court held that Combustion was not entitled to \$9,054,000 of the lien amount because that amount was tied to power production and not to labor, material, and services provided under the contract. Upon appeal, the Supreme Court disagreed, ruling that Combustion engineering was entitled to a mechanic's lien for the full amount because all of the payments in issue were part of Combustion's compensation for enhancing the value of the property.

However, the Supreme Court ruling became irrelevant because in a related action in U.S. District Court, the mechanic's lien was discharged on the grounds

that the claim was invalid and therefore could not be enforced (see section 3.7, Conflict of Interest). That is, the U.S. District Court ruled that Combustion Engineering had breached the contract and therefore was not entitled to file mechanic's lien.

3.8.3 Suggestions for Managing Lien Issues

The decisions regarding liens appear to vary significantly. Accordingly, since the ability of a design professional or contractor acting as a design-builder to protect its investment in the work of its subcontractor or partner may differ in different states, it is important that the design-builder investigate the law regarding lien rights in the jurisdiction where the project is being built.

3.9 Public procurement requirements and statutes

3.9.1 Explanation of the Issue

The issue of public procurement requirements and statutes applies only to design-build in the public sector, that is work for federal, state, county, and city agencies which must follow public procurement laws and regulations (e.g. the Brooks Act and Federal Acquisition Regulations). Though state, county, and city agencies do not specifically follow federal procurement regulations, they have local regulations very similar to federal regulations. Most public procurement laws and regulations are based on one key concept:

Fair and open competition when using public funds, thereby eliminating favoritism and unfair practices in the selection of designers and contractors.

On the federal level, this key concept is manifested in three key Federal Acquisition Regulations. The first of these regulations is based on the Competition in Contracting Act which establishes a preference for the use of competitive sealed bid procedures for procuring construction and like services.

- a. Contracting Officers shall acquire construction using sealed bid procedures....except that sealed bidding need not be use for construction contracts outside the United States, its possessions, or Puerto Rico.

The second of these regulations is based on the Brooks Act which establishes federal policy to “negotiate contracts for architectural and engineering services on the basis of demonstrated competence and qualification for the type of professional services required and at a fair and reasonable price.”

- b. Contracting officers shall acquire architect-engineering services by negotiation, and select sources in accordance with applicable law, subpart 36.6 [of the F.A.R.], and agency regulations. (48 C.F.R. 36.103 (1990))

The third key regulation is based on the belief that “An organizational conflict of interest exists when the nature of the work to be performed under a proposed Government contract may, without some restriction on future activities, (a) result in an unfair competitive advantage to a contractor, or b) impair the contractor’s objectivity in performing the contract work.”(48 C.F.R. 9.501)

- c. If a contractor prepares and furnishes complete specifications covering non-developmental items, to be used in a competitive acquisition, that contractor shall not be allowed to furnish these items, either as a prime contractor or as a subcontractor, for a reasonable period of time, including, at least, the duration of the initial production contract. (48 CFR 9.505-2(a)(1).

A similar prohibition applies to the drafting of specifications for and furnishing equipment (48 CFR 9.505-2(A)(2).

As can be seen by these key regulations, they do not expressly prohibit design-build, but do indirectly preclude the use of design build by requiring separation of design and construction services, by requiring negotiated procurement of design services, and by requiring that construction contracts be awarded to the lowest responsible bidder only after the project is fully designed (Building Futures Council, 1995). Though the intent of these laws and

regulations is to promote fair and open competition (i.e. to prevent favoritism and unfair procurement practices), they tend to stifle creative, and many times better, methods of construction and contracting.

The federal government and some states have various laws and judicial rulings regarding design-build. Though the federal government has used design build in the past (1970's and 1980's) its use was not frequent or common until recently. Many federal government agencies have now been authorized to use design-build and are "experimenting."

In several states (Virginia, Idaho, Indiana, New York, South Carolina, New Hampshire, and New Mexico) in the 1970's and 1980's, Attorney's General were called on to evaluate the design-build process before it was tried. Their decisions and rulings in late 1970's and 1980's found that design-build violated state laws, provisions, or bidding requirements, and was thus prohibited (Buesing, Oct 1991). Subsequently, some of these states have passed legislation or statutes that specifically address design-build. For example, in 1989 Florida enacted legislation expressly authorizing design-build contracts. In 1995, Texas passed Senate Bill No. 1 which allowed the use of design-build for public school work, and then Senate Bill No. 583 in 1997 which refined the procedures for the use of design-build and expanded the use to include institutions of higher learning.

There have also been cases when a state or local agency has used a design-build contract without legislative action or requesting decisions from Attorney's General, asserting that the design-build procurement process is not covered by competitive bidding statutes and ordinances and is therefore not restricted from use. In at least two instances, courts have ruled in favor of this approach (Wisconsin in 1983 and Alaska in 1987). A more thorough treatment of this issue is provided by Buesing (Oct 1991).

Currently, design-build for public procurement could be said to be in the initial stages with public owners trying design-build on selected projects, learning how the process works, and evaluating the successes and problems encountered.

3.9.2 Case Law Relating to Public Procurement Requirements and Statutes

One early case which challenged the legality of design-build *City of LynnHaven v. Bay County Council of Registered Architects, Inc.* The court ruled that allowing a design-builder to select the designer (without having to follow Brooks Act type requirements) contradicted Florida A/E selection laws (Brooks Act type) which were based on qualifications not just price.

As mentioned above, there were two cases in the 1980's in which the courts ruled in favor of the assertion that design-build was not covered by statutes for traditional methods. In *J.F. Ahearn Co. v. Wisconsin State Public Building Commission*, a contractor challenged the states authority to waive the competitive bidding requirements and use design-build for the construction of several state office buildings. The court ruled in favor of the state, stating in its opinion that the use of the design-build process was “in the interest of ‘economy, efficiency, and the public welfare’ consistent with the states long-range planning goals” and that “the commission’s decision was based on rational factors and was not arbitrary or capricious.”(Buesing, Oct 1991).

In *Breck v. Ulmer* a contractor challenged the use of design-build by the city for public works construction. His challenge was based on an old city charter provision that contracts for public improvements be awarded to the lowest qualified bidder on a competitive bidding process, and not a negotiated process as used by design-build. The court rejected the challenge saying that the actions of the city assembly members were immune because they did not violate clearly established law (Buesing, Oct 1991).

Recent government budget cuts and reorganizations have made many public agencies willing (and in some cases eager) to try new methods of project delivery to decrease costs and increase quality. The advantages of design-build are apparent and accordingly various efforts are under way to either get design-build “legalized” or find ways around the existing barriers.

3.9.3 Suggestions for Managing Public Procurement Issues

- a.. Investigate the public procurement regulations and legal decisions in your local area.
- b. If design-build is allowed in your local, ensure that you follow any requirements (e.g. selection method) specified by local statutes.
- c. Appendix A is a copy of “A Survey of Federal Agencies Using Design-Build Project Delivery” done by ASCE in the early 1990’s. Appendix B is a copy of a state by state survey on state bidding laws allowing or prohibiting design-build, prepared by the Construction Systems Committee of the American College of Construction Lawyers. Both of these were published in 1995 by the Building Futures Council. Another resource for state by state design build laws is “The Design/Build Process: A Guide to Licensing and Procurement Requirements in the Fifty States and Canada,” edited by John R. Heisse, II and recently published by the ABA Forum of the Construction Industry.

4.0 INTERVIEWS WITH DESIGN-BUILD PARTICIPANTS

In an effort to assess the actual legal issues that are being encountered by design-build participants, interviews were conducted with four design-build participants: the Office of Facilities Planning and Construction for University of Texas (Owner), Faulkner Construction (Contractor), Graeber, Simmons, and Cowan, Inc. (Architect/Engineer Firm), and the head of the Head Counsel for Naval Facilities Engineering Command. The interviews were not intended to be a collection of data for analysis, but rather a “reality check” on the articles and publications that were reviewed in preparing this report.

Each of the individuals interviewed had a varied degree of experience with design-build, some just beginning and some extensive. All interviewees acknowledged the potential for the legal issues discussed in this report, however none had any direct knowledge or experience in which a legal issue had been a problem on a design-build project. On the contrary, the consensus seemed to be that the design-build arrangement in which the designer and contractor are a team promoted problem solving and conflict resolution without the need for litigation.

Though these interviews did not provide any new information regarding specific legal issues, it did confirm that the legal issues cited were potential problems on a design-build project. However, the fact that none of the interviewees had personal experience or knowledge of litigation on design-build projects would lead one to develop a positive opinion regarding design-build’s potential for dispute avoidance.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

It can be concluded from the examples and case law presented in this report that there are several legal aspects of design-build construction that the parties involved in design-build should be aware of and should address at the beginning of a project. It is also clear that different states, different courts, and the federal government may all have a varied understanding of design-build construction and view it somewhat differently. Accordingly, the solutions to many of the possible design-build legal issues may vary with the location and the situation, and further, what might be legal or appropriate in one state may not be legal or appropriate in another state. Therefore, it is important that design-builders or those who would be design-builders are aware of these legal issues and ways of managing the potential problems or risks.

An additional conclusion that may be drawn regarding design-build is that it is a positive contractual means of avoiding disputes. Considering that 1) the arrangement of design-build entities promotes teamwork and team problem solving, and removes the owner from the “referee” position, thereby reducing the much of the potential for litigation; 2) the interviews with design-build participants (though very limited) indicated no experience with design-build litigation; and 3) the lack of extensive design-build case law, it could be concluded that few design-build contracts have resulted in litigation. Therefore, the design-build method of project delivery could be considered a positive means of dispute avoidance.

5.2 Recommendations

Specific recommendations regarding specific issues are provided as part of the text of this report; however, there are at least three general key recommendations for parties involved in or planning to be involved in design-build:

- a. Review the key legal aspects of design-build to gain a clear understanding of the issues and the possible impacts that they can have on a project.
- b. Identify the applicable issues that may apply to your location and situation, and develop a plan for preventing or mitigating the possibilities. This would include review of the issues in the location where the work will occur.
- c. Include in your contracts appropriate clauses necessary to prevent or mitigate possible design-build legal issues. Cushman and Taub (1992) provide suggested contract clauses that can be included in a contract to protect the owner, contractor, and subcontractors.

A final recommendation is that the use of the design-build method of project delivery be increased. Though many owners, designer, and constructors are as yet unfamiliar with design-build, there are numerous advantages of design-build, as discussed in the second chapter of this report. Though there are various somewhat unfamiliar legal issues that must be considered when using design-build, with prudent preparation these issues can be effectively managed. Accordingly, increasing the use of design-build should receive serious consideration from owners, designers, and constructors as they determine appropriate methods of project delivery.

APPENDIX A
A Survey of Federal Agencies Using
Design-Build Project Delivery

APPENDIX/ SURVEY OF FEDERAL AGENCIES USING DESIGN-BUILD PROJECT DELIVERY*

	U.S. Army Corps of Engineers	U.S. Navy NAVFAC	U.S. Air Force The Civil Engineer	Department of Veterans Affairs
Total Value of Construction FY 1991	\$3.38 billion - MILCON \$1.35 billion - Civil Works	\$1 billion - MILCON \$126 million - Family Housing	\$854.8 million	\$352.6 million
Percentage (\$ spent) using Traditional Project Delivery 1991	98% - MILCON 100% Civil Works	99.9% - MILCON 23% Family Housing	94.8%	100%
Percentage (\$ spent) using Non-Traditional (Design-Build, Turn-key, etc.) 1991	2% - MILCON 0% - Civil Works	.01% - MILCON 77% Family Housing	5.2%	0% (DoVA Used Design- Build in 1990, and again in 1992)
Does Agency Expect Design-Build to Increase over the next two years?	Yes, as permitted by PL 101-307	Yes, if activities experience success with design-build	Yes	Yes
Design-Builder Qualification Procedure	Varies by project type, funding source, design requirements	Vary according to project type, contracting officer decisions	Offeror responds to CBD announcement	Initial design by QBS, selection by competitive negotiation
Design-Build Offeror Selection Factors	Varies by project type, design requirements	Varies by Contracting method	Related firm experience, key individuals experience, design-contractor, relationship, cost	Price, qualifications of firm, qualifications of individuals
How are Selection Factors Weighted	Varies by project type, design requirements	Price is a factor, along with technical considerations	Experience, working relationship, cost	Varies with project
Percentage of Design Complete at Award to Design-Builder	0% to 35%, varies by project type	Generally 20% to 30%	30% to 40%	20% to 50%
Does Agency Offer Reimbursement to Unsuccessful Offerors	No	No, but bid and proposal costs for successful offeror may be negotiated as indirect expenses	No, but offeror effort is kept to a minimum	No, because owner carries design further through design process
Type of Contract, Used with Design-Build Approach	One-step turnkey	Firm fixed price	Fixed price, not to exceed	Firm fixed price
Types of Projects for Which Design-Build is Currently Used	Educational Facilities, Maintenance/warehouse facilities, family housing	Parking structures, water treatment plants, family housing, wharf facilities, child development centers, etc.	Sophisticated (cryptology center) to simple (dormitory)	Hospitals, clinics, temporary buildings, parking garages
Additional Comments	Corps is developing architectural and engineering instructions (AEI) on turn-key	Navy is experimenting with "Newport Design-Build" to obtain simple projects via sealed bidding		Less in-house man-hours needed to review design- build projects; more in- house hours needed to set up design criteria and do selection

Department of State	General Services Administration	Environmental Protection Agency	National Aeronautics and Space Administration	Federal Highway Administration	U.S. Postal Service
\$270 million	\$1.719 billion	\$172 million	\$498 million	\$7.363 billion (federal share - new design and construction)	\$1.5 billion
79%	67%	3%	93%	100%	78%
21%	33%	97%	7%	0% (FHWA funding may be used for privatized toll road in 1992)	22%
Possibly	Growth to be determined	Most EPA projects are already using non-traditional delivery	Yes	With special experimental project No. 14, FHWA is trying out innovative contracting practices	Moderate growth in design-build is expected
Prequalification as required in PL 99-399	With two-phase process. Phase I includes technical and price analysis information; firms are then selected to participate in Phase II with technical proposal, concept design and price	Offeror responds to CBD announcement	Offeror responds to CBD announcement		General notice to potential offerors in CBD, or prequalification notice in CBD to select at least 3 highly qualified firms
Price plus technical factors	Technical factors, price, past performance, projected life cycle costs	Varies by project type; determined by contracting officer	Tech management, key personnel, past experience, cost, corporate resources		Pre-established criteria including mgmt. plan, key personnel, experience, past performance, safety, price
Price, then technical factors	Selection based on greatest total value: initial cost, life cycle cost, technical factors	Varies by project type, technical and price factors	Numerical scale as stated in CBD announcement		Relative importance of above factors is found in notice; USPS seeks greatest value
0% to 35%	0% to 30%	Varies by project type	20% to 30%		0% to 30%
No, but concept is under consideration	Not usually, but stipends may be used in two-phase process	No	No	Not Applicable	No
Firm fixed price; or reimbursement for design and fixed price construction	Fixed price and fixed price incentive	Cost reimbursement	Cost plus fixed fee, fixed price, fixed price plus shared incentive		Guaranteed maximum price with share saving formula as incentive to control cost
Embassy chanceries and other facilities	Government Office Buildings and related facilities GSA Design-Build RFP Guide Published November 1991	Hazardous waste remediation	Technical facilities, office buildings, visitor centers, storage/warehouse	See TRB Circular No. 386, "Innovative Contracting Practices" Dec 1991 States of California, Michigan and Missouri have indicated a strong interest in design-build	Postal facilities, both new and major renovation

APPENDIX B
Fifty State Survey on State Bidding Laws
Allowing or Prohibiting Design-Build

FIFTY-STATE SURVEY ON STATE BIDDING LAWS ALLOWING OR PROHIBITING DESIGN/BUILD

(M = 000)

State	Require Competitive Bid to Completed Design	Exceptions	Permit Design/Build	Permit Public/Private Projects	Require Competitive Bid for A/E Svs
AL	Yes	CM svs if manage only	Yes, with prior approval of AL Bldg Commission	No, except by special legislation	No
AK	Yes	Emergency: Projects less than \$100M	Yes, if procurement officer determines advantageous to state		No
AZ	Yes	Emergency (but not used for constr svs); projects \$10M or less	Toll road; pilot project, 1991 legis-lation	No statutes but projects, e.g. Suns basketball arena & some practical judicial decisions	No
AR	Yes	Projects less than \$10M (munic) & less than \$30M (school districts)	No	Yes	No
CA	Yes	Build to suit leases: apparently used for some corrctil facils	Apparently for prisons & education	Build to suit leases (see exceptions)	No
CO	Yes	Emergency; small purchases	Unclear		No
CT	Yes	Emergency; Projects \$250M or less; CM contracts	No, separate design services required	Lease-back projects	No
DE	Yes	Emergency	No		No
DC	Yes	Emergency; Projects \$10M or less	Unclear, have been some D/B projects but may not be legal		No
FL	Yes	Emergency	Under limited circumstances	Judicial decisions permit nonrecourse public financing	No
GA	Yes	Emergency; Projects less than \$20M (local) and \$10M or less (state)	Doubtful		No
HI	Yes	Projects less than \$15M	No		
ID	Yes	Emergency; correctional facility work performed by inmate labor	Yes		No
IL	Yes	Emergency; Projects less than \$10M	No	No	No
IN	Yes	Emergency; Projects less than \$25M	No	No	No
IA	Yes	Emergency; Projects \$25M or less	Statutes suggest separation of design and construction svs	Municipal lease-back projects	
KS	Yes	Emergency; Projects \$10M or less	No		No
KY	Yes	Emergency; Projects \$10M or less	Possibly permitted by statute		No
LA	Yes	Emergency; Projects \$30 M or less	No		No

Fifty-State Survey on State Bidding Laws Allowing or Prohibiting Design/Build (cont'd)

(M = 000)

State	Require Competitive Bid to Completed Design	Exceptions	Permit Design/Build	Permit Public/Private Projects	Require Competitive Bid for A/E Svs
ME	Yes	School projects \$100M or less	Possibly, if bid lump sum	No	No
MD	Yes	Emergency; Project \$10M or less	Yes (state projects)	No	Yes, if over \$100M
MA	Yes	Emergency; Projects \$25M or less	Yes		No
MI	YES	Emergency and less than \$50M	Uncertain		No
MN	Yes	Depending on type, projects less than \$10-\$75M	Waste water treatment plants, solid waste, energy conservation	No	No
MS	Yes	Emergency	No		No
MO	Yes	Emergency; Projects \$10M or less	Unclear - have been some D/B projects but not clear if legal	No, but some lease-back projects, not clear if legal	No
MT	Yes	Projects \$25M or less	No	Lease-back projects	No
NE	Yes	Projects \$15M or less	No		
NV	Yes	Projects less than \$10M	Yes		No
NH	Yes	Projects \$10M or less	Yes	Lease-back projects	No
NJ	Yes	Emergency; Projects \$25M or less	Yes - if follow bidding statute	Probably - if follow bidding statute	Executive Order directs use of modified competitive process
NM	Yes	Emergency; Projects \$5M or less	No		No
NY	Yes	Many e.g. emergency, sewage sludge removal, res recovery, ind devel, NYC school or transit if prior bond, competitive bid impractical, etc.	See exceptions		No
NC	Yes - Favors use of multi-prime bids	Emergency; Projects less than \$50M	No, except by special statute	No statutes, but experimentation with turn-key/lease-back projects	No
ND	Yes	Emergency; Projects \$50 M or less	No	Yes	No
OH	Yes - Requires multi-prime bids	Emergency; Projects less than \$10M	No	No	No but bids may be used to break ties

**Fifty-State Survey on State Bidding Laws
Allowing or Prohibiting Design/Build (cont'd)**

(M = (X))

State	Require Competitive Bid to Completed Design	Exceptions	Permit Design/Build	Permit Public/Private Projects	Require Competitive Bid for A/E Svs
OK	Yes	Emergency; Projects \$7.5M or less	No		No
OR	Yes	Emergency; Projects specifically exempted by awarding authority	Yes	Unknown	No
PA	Yes	Projects \$25M or less	No, except possibly prisons	Yes	No
RI	Yes	Emergency; Projects \$5M or less	No		No
SC	Yes	Emergency; Projects less than \$2.5M	No		No
SD	Yes	Emergency; Projects less than \$25M (state) & less than \$15M (local)	No		No
TN	Yes	Emergency	No		No
TX	Yes	Emergency; Depending on type, projects less than \$5-\$10M	No	No	No
UT	Yes	Emergency	No		No
VT	Yes	Projects \$5M or less	No		No
VA	Yes	CM contract; D/B project; emergency; project \$500M or less (state)	Yes		No
WA	Yes	Emergency; Projects \$5M or less	No		No
WV	Yes	Emergency; Projects \$25M or less	No		No
WI	Yes	Emergency; Projects \$30M or less; waiver by awarding authority for innovative design & constr processes	Yes - For building based on finding by State Building Commission	Lease-purchase projects	No
WY	Yes	Projects \$7.5M or less; when competitive bidding not feasible	No	No	No

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